

PROCEEDINGS  
OF THE  
BIOLOGICAL SOCIETY OF WASHINGTON

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RECENT NOTES REGARDING WEST INDIAN REPTILES  
AND AMPHIBIANS.

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Since my preliminary survey of the herpetological fauna of the West Indies \* was published, new material has made it possible to clear up the identity of several species the status of which was in doubt, to present new locality records for several species, and to characterize some which appear to have remained undescribed. Since the revision of the genus *Ameiva* is the subject of a special study by Mr. G. K. Noble and myself no notes upon it will appear in this short paper. I also hope to review the Cuban forms in collaboration with Mr. C. T. Ramsden of Guantanamo hence I am reserving recent Cuban data for that paper, now fairly well under way.

During the past summer Mr. G. K. Noble and Mr. F. R. Wulsin made a trip to the West Indies for the Museum of Comparative Zoology, Cambridge, Mass. Mr. Wulsin was able to remain but a short time, while Mr. Noble remained for some ten weeks upon Guadeloupe making full collections of the land vertebrates. These men both got some interesting species upon other islands which they touched at both going and returning. Beside this Dr. A. G. Ruthven of the Zoological Museum of the University of Michigan has kindly allowed me to examine and retain a considerable portion of the material which he obtained during the stays in West Indian harbors of the ship in which he journeyed to and from Demarara. Some of his material has been extremely helpful.

**Eleutherodactylus lentus** (Cope).

Up to 1914 I had not been able to satisfy myself of the certainty of the occurrence of this species upon St. Croix, and I recorded it as confined

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\* Mem. M. C. Z., 44, 1914, p. 209-359, pl. 1.

to St. Thomas. (l. c. p. 247.) This summer, however, Noble and Wulsin found it upon St. Thomas, and both Noble and Ruthven found it even more abundant upon St. Croix both at Christiansted and Fredricsted. I am unable to find any difference between the individuals from the two islands.

### **Leptodactylus albilabris** (Gunther).

I was at first inclined to believe that a series of examples collected by Ruthven and Noble at St. Croix were different from those from St. Thomas (the type locality) and Porto Rico. Since, however, I have had the opportunity to examine some specimens which Doctor Stejneger loaned me from both these localities. I am convinced that all are probably the same. These Leptodactyli are curious and puzzling "frogs" and large series should always be gathered when possible, as some peculiar variations occur.

### **Sphaerodactylus macrolepis** Gunther.

This species was described from St. Croix and subsequently recorded from St. Thomas. This summer both Messrs Noble and Wulsin, as well as Doctor Ruthven and his assistant Mr. Gaige, visited both these islands, staying for some days at St. Croix on their return voyage, where Ruthven, Gaige and Noble did extensive collecting together. Nearly a hundred Sphaerodactyli were secured on both these islands. All are referable to one species, which agrees with what Garman has called, without doubt correctly, *Sphaerodactylus macrolepis*. On St. Croix the lizards were secured not only at Christiansted but also at Fredricsted, at the opposite end of the island. Some were secured about houses in the towns, many others in the country. The collection makes it quite evident to me that but a single species of *Sphaerodactylus* is found in St. Croix as is usual on all but the Greater Antilles. In 1862 Reinhardt and Lutken described *S. microlepis* on a specimen said to have come from St. Croix, but the describers stated clearly that the locality record needed confirmation. Beside this they identified their new form with A. Dumeril's *S. fantasticus variété à taches noires*, which came from St. Lucia. The diagnosis of *S. microlepis* certainly recalls a Lesser Antillean form, and the type probably never came from St. Croix. I suggest then that the name probably belongs to the St. Lucia species, in which case *S. melanospilus* Bocourt, also from St. Lucia, becomes a synonym of *microlepis*, which is probably confined to that island.

### **Sphaerodactylus fantasticus** Duméril & Bibron.

It becomes increasingly evident that the species of this genus do not range widely through the Antillean chain. Anderson (Bih. K. Svensk. vet.-akad. Handl., 1900, 26, afd. 4, No. 1, p. 27) has examined Sparrman's type of *S. sputator* which came from St. Eustatius and said that it was the same as *S. fantasticus* of Duméril et Bibron, which was said to have come from Martinique. There is no evidence that Anderson made a direct comparison hence it is wise until we know to the contrary

to assume that *S. sputator* is confined to St. Eustatius. *S. fantasticus* was one of the species received from Plée and credited by Duméril et Bibron to Martinique. Stejneger pointed out how worthless was this information.\* Further investigation shows that while Plée evidently collected at the various French Islands, probably on a voyage from Porto Rico to Martinique, he did very little reptile collecting upon that island itself.

This summer Doctor Ruthven got three *Sphaerodactyli* upon Martinique and it became obvious at once that they were not *fantasticus*, since they lacked the granular middorsal area mentioned by Duméril et Bibron. When on the other hand, I examined Noble's series of about fifty examples from Guadeloupe I was struck by their very exact agreement with the description of *fantasticus*. This was especially evident in comparing specimens with Duméril et Bibron's figure, since I was able to match absolutely with several different individuals the peculiar and I imagine quite characteristic markings of the head and neck region. Thus I submit that *S. fantasticus* D. & B. was really collected by Plée upon Guadeloupe, not Martinique, and is, so far as we now know certainly, confined to the Island of Guadeloupe. The Martinique species which appear to be undescribed may be known as

***Sphaerodactylus festus* sp. nov.**

Type, an adult, M. C. Z. No. 10622, collected on Martinique, French West Indies, July 4, 1914, by Dr. A. G. Ruthven. Paratypes in the M. C. Z. and the University of Michigan, Zoological Museum.

Snout rather pointed but short, the distance from the tip to the eye being slightly less than that from the posterior border of the eye to the ear opening, not quite twice the diameter of the eye; rostral rather large with a long median cleft behind; nostril between rostral, first supralabial, a single rather large postnasal and a larger supra-nasal which is separated from its fellow of the other side by a single small scale, these three bordering the rostral above; three large supralabials to the center of the eye; a prominent spine on the superciliary margin over the middle of the eye; head above and on the sides covered with small rounded granular or tubercular scales; those on back small, keeled, very slightly imbricate, eighteen to twenty equivalent to the distance from tip of snout to ear opening; mental large, longer than rostral; one very large, one medium sized and one small infralabial to below the center of the eye; two small chin shields behind mental followed by a series of five flat smaller scales, scales of throat and lower neck uniform in size, flat and polygonal; on chest and belly larger, flat and slightly imbricate. Scales of limbs small, elongate, imbricate and keeled; of tail above whorls of small pointed imbricate slightly keeled or flat scales, below with a median series of large hexagonal plates with several lateral series of smaller flat scales.

*Color*.—Almost uniform brown above with very faintly indicated chevron shaped lighter markings on hind neck and sacral regions.

\* Herpetology of Porto Rico, Washington, 1904, p. 622-623.

This species is evidently one of the medium sized forms, being considerably larger than *S. torrei* from Cuba, of course far larger than *S. elegans*, and not reaching to anything like the size of *S. picturatus* from Haiti, *S. asper* from Andros or *S. richardsonii* from Jamaica which are the largest species in the genus. In no one of the three examples before me is the tail perfect, but the length of the largest specimen (Paratype in U. of Mich. Mus.) from snout to vent is 30 mm. The type is not quite so large, but all the specimens are evidently adult.

I have given this species the specific name of *festus* because the types were caught on Independence Day, July 4, 1914.

The larger *Anolis* from the Island of Antigua has been referred by Boulenger to *Anolis leachii*.<sup>\*</sup> This species was described in rather general terms by Duméril et Bibron from the Antilles, the types having no definite locality. When I published my West Indian Herpetology in 1914, I located *A. leachii* on Guadeloupe, partly because it was very probable that the Paris Museum would receive material from this formerly flourishing French Colony and partly because Boulenger has declared *Anolis ferreus* Cope to be a synonym of *leachii*.<sup>†</sup> The type of *A. ferreus* in the British Museum was said to have come from Guadeloupe. I had no Guadeloupe specimens until Mr. Noble returned with a large series, fresh and carefully preserved. They agree well with Cope's description of *A. ferreus*, having weakly but distinctly keeled ventral scales, while Duméril et Bibron state definitely "*Squames ventrales lisses, entuillées*." So that it becomes evident that until the types of *leachii*, if they are still to be found and are in usable condition, can be studied and compared with fresh material with full data, the name will have to drop temporarily from use. The Guadeloupe individuals may be called *Anolis ferreus* (Cope), while those from Antigua which are very different may be known as *Anolis antiquae* sp. nov. The specimens from Nevis in the British Museum will probably be found to be the same as these in this Museum which Garman has called *A. bimaculatus*. Having no topotypes from St. Eustatius this allocation can not be considered of much authority. At present the old name *Anolis bimaculatus* Sparrman must be retained for topotypes from St. Eustatius, and perhaps for the Anoles from Nevis and St. Kitts, it can not be considered the same as *A. leachii* on the evidence given by Anderson.<sup>‡</sup> Although it would be almost too good to be true to see the name *leachii*, a veritable vagrant among names, buried in the synonymy of *bimaculatus*.

#### ***Anolis antiquae* sp. nov.**

Type an adult male, M. C. Z. No. 10624, from near St. John, Antigua, B. W. I., collected by G. K. Noble and F. R. Wulsin.

Top of head with two diverging frontal ridges, which enclose a rather broad shallow frontal hollow; head scales nearly flat, except those of the

<sup>\*</sup> Ann. Mag. N. H. 1894, ser. 6, 14, p. 375.

<sup>†</sup> Cat. Liz. B. Ill., 2, 1385, p. 29.

<sup>‡</sup> Bib. Svensk. vet.-akad. Handl., 1900, 26, 4, 1, p. 27.

canthal and frontal ridges; rostral low, narrower than the mentals; eight or nine scales in a series between the nostrils; supraocular semicircles partly in contact and partly separated by one or two minute scales; occipital rather larger than ear opening, separated from the supraocular semicircles by two or three extremely irregular series of polygonal flat scales some of which are larger and some about equal in size to the dorsal granules; supraorbital disc composed of eight or nine enlarged flat polygonal and very slightly tubercular scales surrounded by several rows of granules; one large and two very small scales between the superciliaries and the supraocular semicircle bordering the supraocular granules anteriorly; canthus rostralis sharp, consisting of five elongate shields; supraciliary ridge consisting of one very long and narrow anterior shield followed by a double series of smaller scales which separates the supraocular granules from those covering the lateral orbital region; loreal rows five, the lower row with raised lower edges, many of the others slightly rugose and often separated from one another (especially the posterior loreals) by minute granules; three posterior scales only, of subocular semicircle, keeled; all scales of this semicircle except the anterior one in contact with the supralabials; nine or ten supralabials, the suture between the seventh and eighth being under the center of the eye; temporals small, flat and rounded, with two distinct enlarged supratemporal series; dorsals rather coarsely granular, strongly keeled, a well defined median double series of larger ones; ventrals, rather large, imbricate, rounded behind, perfectly smooth, those of the throat smaller, more elongate, a few on the gular pouch very slightly keeled; fore limbs above with sharply keeled scales, those on the upper arm slightly smaller, those on the lower arm about equal in size to the ventrals; anterior face of femur and underside of tibia quite similarly covered, the scales on the former gradually decreasing on the underside, the upper side of both being covered with scales slightly larger than the dorsals; scales on fingers and toes sharply carinate; digital expansion very wide, about 27 lamellae under phalanges ii and iii of fourth toe; tail moderate in length, strongly compressed; the caudal verticels distinctly indicated by vertical series of more enlarged scales, those between being slightly smaller and more pointed in about six vertical series, irregular and all strongly imbricate and heavily keeled; the scales along the upper edge of the tail raised and spinous, forming a serrated ridge enlarged teeth of which correspond to the posterior end of each verticel, three spines, two small and one large correspond to each verticel; dewlap small, the anterior edge thickened; a series of four enlarged flat postanal scales.

Color in spirits uniform brown above, thickly dotted and vermiculated with darker; all lower surfaces smoky. Color of dewlap in life unrecorded but apparently smoky like the other ventral surfaces.

This lizard is a heavy, rather clumsily built *Anolis*, with a rather broad blunt snout and swollen jowls. The tail is but slightly longer than head and body. The fingers and toes are long and sprawling and the digital expansions very noteworthy. A single young specimen which Mr. Noble also preserved shows the characters of the adult and is marked in just



the same way. Many details of the cephalic squamation of *antiquae* recall those of *A. cristatellus*, but the tail, of course, is very different there being no "fin" in this species while the scales below the eyes and between the nostrils are also very different. It is widely separated from *A. ferreus* Cope from Guadeloupe, with which it has been associated when both were called *A. leachii*.

The method of description which I have used is based on Stejneger's, the only one which is sufficiently detailed unless the species described is compared directly with some widely known, and common valid species. It is my hope at some future time to rediscuss all of the Antillean species of *Anolis* giving figures and full descriptions, but material is still not available from several islands.

#### ***Anolis marmoratus* Duméril & Bibron.**

This was another of the species said to have been collected at Martinique by Plée. Garman, although he collected an enormous series of *Anolis* from Martinique did not find the species there. He decided, however, that the specimens collected by Richardson from Desirade were referable to it. This opinion is, of course, but a guess since the types in Paris have not been examined. It is nevertheless not improbable that *A. marmoratus* is confined to Desirade, as *A. asper* is to Marie Galante, and *A. ferreus* to Guadeloupe. Desirade is a French Island and it seems likely that Plée confined his collecting to these after leaving Porto Rico. It is possible that the vessel on which he journeyed touched at the French Islands only. Garman's course in assigning *A. cepedii* to Martinique was justified since Lacépède distinctly states\* that the example upon which his description and remarks are based were sent to Paris from Martinique. Some of the subsequent writers such as Merrem, who in 1820 gave the species the name *cepedii*, simply stated that it came from the Antilles and at different times it has been confused with various other races. The name *cepedii* may be restricted, however, to what is apparently the only species found on Martinique.

Mr. Noble secured four Anoles; three are adults, which seem to differ constantly from their near neighbors on Guadeloupe. They came from Terre d'en Haut, Les Saintes, one of two small islands lying at some distance south of the southwest extremity of Guadeloupe. These lizards are distantly related to the Anoles of Dominica and to those of Marie Galante and Desirade. The species may be known as

#### ***Anolis terrae-altae* sp. nov.**

Type, an adult, M. C. Z. No. 10,627, from Terre d'en Haut, Isles des Saintes, Guadeloupe, Fr. W. I. From the collection of G. K. Noble made during the summer of 1914.

This species is closely related to *Anolis ferreus* of Guadeloupe. It may be distinguished by the perfectly smooth ventrals which in specimens of *ferreus* of the same size show a distinct tendency toward weak keels. The supraorbital semicircles are much more extensively in contact (sometimes

\* Hist. Nat. Quad. Ovip. 2, 1788, p. 120.

almost completely so). The scales of the infraorbital semicircles are much less keeled. The profile is slightly flatter, the head slightly narrower, the muzzle more acuminate.

**Leptotyphlops bilineata** (Schlegel).

Schlegel based this species on examples from Martinique collected by Plée. Duméril et Bibron, a very little later, mentioned specimens in the Paris Museum from Martinique and from Guadeloupe collected by Plée and by Guyon. The Guadeloupe record is probably correct, the Martinique record is valueless until confirmed, although Boulenger states that there is a Martinique specimen in the British Museum. As no other data are given it is not unlikely that this was one of the Plée specimens distributed by the Paris Museum. The British Museum has a specimen from Barbados, given by Colonel Fielden. It is interesting now to record a specimen from St. Lucia collected July 5, 1914, by Dr. A. G. Ruthven and by him given in exchange to the M. C. Z. The species, which is confined to the Lesser Antilles, will probably be found to have a considerable range through the islands.

**Typhlops lumbricalis** Linne.

Noble heard from all the local observers of the Guadeloupean fauna that this species had become excessively rare if it was not already extirpated. It is well worth recording that the exterminating agent was not in this case the always culpable mongoose alone, but largely the giant toad, *Bufo marinus* (Linne). This creature has been introduced by man in comparatively recent times into almost all of the islands, and is said to snap up greedily every *Typhlops* which it sees. As is well known the blind snakes sometimes crawl about at dusk or after showers as do amphibaenians and earthworms. With the material so kindly entrusted to me by Doctor Ruthven, I find a single little blind snake from St. Croix. It is a pallid creature quite different in color from any lumbricalis which I have ever caught or seen. I can not, however, find any characters for separation and I am of the opinion that this little snake is albinistic, although the eyes show a trace of pigmentation. Albinism in reptiles is rare but, of course, well known. I remember once a native bringing me a completely albinistic *Amyda*. It was in Java and I could examine the beast but could not kill and preserve it, for such beasts are *Kramat*, and venerated, and this ancient superstition applied even to the extremely ugly white water buffalos.

**Herpetodryas carinatus** (Linne).

In my West Indian Herpetology (p. 331) I discussed the occurrence of the golden tree snake upon Guadeloupe, whence Boulenger had recorded a specimen in the British Museum. I suggested that the locality might be incorrect. There can now be no doubt that this is the case, since Mr. Noble's careful inquiries made in all parts of the island make it quite certain that no such snake ever occurred there.

**Drymobius boddaerti** (Sentzen).

Writing previously (l. c. p. 330) I stated that I was unable to find the series of Granadian examples in this Museum from which the individual

recorded by Boulenger in his catalogue was sent to the British Museum. This series has now come to light and contains both young and adult specimens so that I have been enabled to discover that the individuals upon which I based my *Alsophis bruesi* from Granada, represent in truth this variable species. I have also found and examined the dentition of Garman's type of his *Alsophis pulcher* from Testigos Island and am able to verify Boulenger's action in placing it in the synonymy of *Drymobius boddaerti*.

Mr. Noble secured from Terre d'en Haut, Isles des Saintes, a series of twelve *Alsophes* which seem to represent a local color form. The series is singularly uniform in color and emphasizes the peculiar stability of color among specimens from the same island. Thus every one told him that the *Alsophis* on Guadeloupe (*A. leucomelas* D. & B.) was invariably black, unfortunately it is now probably extinct. All the Guadeloupean examples in the L'Herminier Museum at Point-a-Pitre were black as is one probably from Guadeloupe, collected by Guesde and received by this Museum from the U. S. National Museum. The form on Dominica is very distinct in coloration and I have no doubt but that the variability of color mentioned by some writers was because they had specimens from several islands. We know that Duméril and Bibron had among the types of *A. leucomelas* specimens from both Guadeloupe and Martinique. I can not see any reason why when this coloration is stable it should not be just as good a reason for separating races as it is among birds, for instance.

#### *Alsophis sanctonum* sp. nov.

Type an adult, M. C. Z. No. 10,686, from Terre d'en Haut, Isles des Saintes, near Guadeloupe, French West Indies.

Similar in squamation to *A. leucomelas* of Guadeloupe, but light ash gray instead of dark chocolate brown. Scale formula of type, 19 rows; ventrals 202, subcaudals 118 (tip of tail gone).

The eleven paratypes show that the range in squamation is scale rows 19, ventrals 195-206, subcaudals range doubtful owing to number of tails imperfect but probably from 128 to 139. The only variation in color seen is in that a few examples tend to be light reddish rather than light grayish, and one (M. C. Z. No. 10,688) is a little darker reddish and has a dark vertebral line, which is but very faintly indicated in some of the others. There is in all specimens the dark band through the eye extending to the neck region which is seen in so many of the allied forms.

Doctor Stejneger kindly loaned me for study a considerable collection of reptiles made by L. Guesde and all said to be from Guadeloupe. For his courtesy I extend to him my hearty thanks. I noted, however, species peculiar to Marie Galante, Desirade, Dominica, and probably to three other islands as well as some such as *Thecadactyles rapicaudus* and *Hemidactylus maboia* which might have come from Guadeloupe—or almost anywhere else. I should like, therefore, to warn students against basing any deduction on Guesde's material which may have been distributed to many museums. Guesde evidently was a worthy follower of Plée, geographically and mentally.